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of skeletons, each unique of its kind, which have been preserved in those comparatively small beds of Solenhofen slate, which record the life of a fraction of Mesozoic time, should be the relics, the one of the most reptilian of birds, and the other of the most ornithic of reptiles. And this conclusion acquires a far greater force when we reflect upon that wonderful evidence of the life of the Triassic age, which is afforded us by the sandstones of Connecticut. It is true that these have yielded neither feathers nor bones; but the creatures which traversed them when they were the sandy beaches of a quiet sea or lake, have left innumerable tracks which are full of instructive suggestion. Many of these tracks are wholly indistinguishable from those of modern birds in form and size; others are gigantic three-toed impressions, like those of the Weald of our own country; others are more like the marks left by existing reptiles, or *Amphibia*. The important truth which these tracks reveal is, that, at the commencement of the Mesozoic epoch, bipedal animals existed which had the feet of birds, and walked in the same erect or semi-erect fashion. These bipeds were either birds or reptiles, or more properly both; and it can hardly be doubted that a lithographic slate of Triassic age would yield birds so much more reptilian than *Archæopteryx*, and reptiles so much more ornithic than *Compsognathus*, as to obliterate completely the gap which they still leave between reptiles and birds.

But if, on tracing the forms of animal life back in time, we meet, as a matter of fact, with reptiles which depart from the general type to become bird-like, until it is by no means difficult to imagine a creature completely intermediate between *Dromæus* and *Compsognathus*, surely there is nothing very wild or illegitimate in the hypothesis that the *phylum*, or genealogical tree, of the class *Aves* has its root in the Dinosaurian reptiles; that these, passing through a series of such modifications as are exhibited in one of their phases by *Compsognathus*, have given rise to the *Ratitæ;* while the Carinatæ are still farther modifications and differentiations of these last, attaining their highest specialization in the existing world in the Penguins, the Cormorants, the Birds of Prey, the Parrots, and the Song-birds.

However, as many completely differentiated birds in all probability existed even in the Triassic epoch, and as we possess hardly any knowledge of the terrestrial reptiles of that period, it may be regarded as certain that we have no knowledge of the animals which linked Reptiles and Birds together historically and genetically; and that the *Dinosauria*, with *Compsognathus*, *Archæopteryx*, and the Struthious Birds, only help us to form a reasonable conception of what these intermediate forms may have been.

In conclusion, I think I have shown cause for the assertion that the facts of Palæontology, so far as Birds and Reptiles are concerned, are not opposed to the doctrine of Evolution, but, on the contrary, are quite such as that doctrine would lead us to expect; for they enable us to form a conception of the manner in which Birds may have been evolved from Reptiles, and thereby justify us in maintaining the superiority of the hypothesis, that Birds have been so originated, to all hypotheses which are devoid of an equivalent basis of fact.

M. Sanson thinks there are in the East two species of horse, which have hitherto been confounded under the single name of Arab.—Starch granules have been found by M. C. Dareste in eggs. This fact, says M. Dareste, adds to the analogy which is thought to exist between the egg of animals and the seed of plants.—The old stock illustration of the force of food in producing peculiarities of animal structure, namely, that of the production of sex in the bee, by the supply of a particular form of nourishment, has received a death-blow in the researches of M. Sanson. In a paper quite recently published, he narrates numerous experiments which prove beyond question that the food has nothing special to do with the production of sex, which, in point of fact, as worked out by Herr Bastian, depends on the supply of zoösperms.

A Guide to the Study of Insects. *By A. S. Packard, jr., M. D.*—Part II. contains chapters on the metamorphoses of insects, their geographical and geological distribution; directions for collecting and preserving insects; a list of the most important entomological works, and a general account of the Hymenoptera, and of the Honey-bee and its mode of building its cells. It consists of 68 pages, with two plates and illustrations in the text. It is hoped that it will prove a valuable number to those beginning to study insects. Part III, to be issued in September, will contain chapters on the Wild Bees, Wasps, Ants, and other Hymenoptera, with three full-page illustrations and numerous cuts.

As there has been some misunderstanding regarding the price of the work and the number of parts to be issued, and how they should be paid for, we would state that it will be issued in from eight to ten parts, probably ten, of sixty-four pages each, and it would be a great convenience to the publishers if subscribers would send $4.00, *in advance*, for the first eight numbers. Address the author at Salem, Mass.

NATURAL HISTORY MISCELLANY.

ZOÖLOGY.

A Review of some of the Articles published in this Journal respecting the Habits and Nesting of our Birds, with Additional Facts.—The oölogical department of ornithology affords ample scope for the most enthusiastic observer to glean something new continually. Different localities and different circumstances modify very much the manner of nesting, as well as the number of eggs; in fact, eggs vary in color occasionally. In the first volume, page 435 of this Journal, Mr. Samuels speaks of several specimens of Indigo-birds' eggs "sprinkled with dots of pale-red." Of a large number of Indigo-birds' eggs, collected by myself and received from others during the last twenty years, they have invariably been white, with a bluish tinge, yet I have other eggs as singularly marked. I have full sets of Cooper's-hawks' eggs, without a blotch upon them, and others blotched with brown, and one set blotched with red. I have the eggs of the Blue-bird pure white, and polished like those of the family Picidæ (Woodpeckers). I have a set of four of the Red-shouldered Hawk's eggs, two of which are pure white, and two blotched with red, as they usually are. I have taken a set of four of crow's eggs this season that have no bluish tinge about them whatever. They are flesh-colored, blotched with red, resembling in markings the egg of the *Pipilo erythropthalmus* (Chewink). The changing of colored or spotted eggs to white is easily accounted for. The coloring matter is deposited on the shell in the oviduct, so that as a consequence of disease of the glands which furnish the coloring matter, the eggs may be laid uncolored. These are exceptions, not the rule, but of frequent occurrence enough to make us cautious and not too positive in our assertions. In no way can we get at all the facts, correct errors, and reconcile statements, unless each collector carefully observes, and truthfully gives his own experience in the various fields of pursuit.